

In the Claims:

1 1. A medical procedure for connecting a blood-conveying conduit to a
2 blood vessel in a patient's body to provide blood flow outside of the blood vessel,
3 the method comprising:
4 creating an arteriotomy in the blood vessel at a selected location; and
5 forming an anastomosis between the blood-conveying conduit and the blood
6 vessel at the selected location to provide blood flow in the blood-conveying
7 conduit outside the blood vessel and away from the selected location;
8 wherein creating said arteriotomy and forming said anastomosis are both
9 performed while the selected location is covered by a substantially intact portion of
10 the epidermis of the body.

1 2. The medical procedure according to claim 1 in which the blood vessel
2 is the aorta.

1 3. The medical procedure of claim 2 in which the selected location is
2 above the iliac arterial bifurcation of the aorta.

1 4. The medical procedure according to claim 2 further comprising:
2 positioning an end of the blood-conveying conduit outside the blood vessel
3 and near the arteriotomy at the selected location; and

4 anastomosing the end portion of the blood-conveying conduit to the selected
5 location.

1 5. A medical procedure for connecting a blood-conveying conduit to the
2 aorta in a patient's body, the method comprising:

3 creating an arteriotomy in the aorta at a selected location;

4 position an end of the blood-conveying conduit near the arteriotomy at the
5 selected location; and

6 anastomosing the end portion of the blood-conveying conduit and the aorta
7 at the selected location;

8 wherein creating said arteriotomy and forming said anastomosis are both
9 performed while the selected location is covered by a substantially intact portion of
10 the epidermis of the body; and

11 wherein the blood-conveying conduit is positioned via an initial entry at a
12 location relative to a femoral artery below the inguinal ligament.

1 6. A medical procedure for connecting a blood-conveying conduit to a
2 blood vessel, the method comprising:

3 creating an arteriotomy in the blood vessel at a selected location;

4 forming an anastomosis between the blood-conveying conduit and the blood
5 vessel at the selected location; and

6 positioning a visualization device adjacent the selected location while
7 creating said arteriotomy and forming said anastomosis.

1 7. A medical procedure for connecting a blood-conveying conduit to an
2 aorta, the method comprising:

3 positioning an end of an instrument having a lumen therethrough near a
4 selected location along the aorta;

5 advancing an end portion of the blood-conveying conduit through the lumen
6 of the instrument to the selected location adjacent the aorta; and

7 forming an anastomosis between said blood-conveying conduit and the aorta
8 at the selected location.

1 8. The medical procedure according to claim 7 further comprising:

2 positioning an end of an endoscope having a lumen therethrough near the
3 selected location; and

4 advancing an end position of the blood-conveying conduit through the
5 lumen of the endoscope to the selected location.

1 9. A medical procedure for connecting a blood-conveying conduit to an
2 aorta, the method comprising:

3 positioning an end of an endoscope having a lumen therethrough near a
4 selected location along the aorta;

5 advancing an end portion of the blood-conveying conduit through the lumen
6 of the endoscope to the selected location adjacent the blood vessel; and
7 forming an anastomosis between the said blood-conveying conduit and the
8 aorta at the selected location;
9 wherein the endoscope is positioned via an initial entry at a location relative
10 to a femoral artery below the inguinal ligament.

1 10. A medical procedure for connecting a blood-conveying conduit to a
2 blood vessel, the method comprising:
3 advancing an end portion of the blood-conveying conduit to a selected
4 location adjacent the blood vessel;
5 positioning an end of an instrument having a lumen therethrough near a
6 selected location along the blood vessel;
7 manipulating a surgical device extending through the lumen in the
8 instrument to create an arteriotomy in the blood vessel at the selected location; and
9 thereafter
10 forming an anastomosis between the blood-conveying conduit and the blood
11 vessel at the selected location.

1 11. A method of bypassing a restriction in an artery of a mammal, the
2 method comprising:

3 providing a graft having a body portion with a first end, a second end and a
4 lumen therebetween;
5 forming a first aperture in a first artery;
6 forming a second aperture in a second artery distal of the restriction;
7 placing the graft between the first aperture in the first artery and the second
8 aperture in the second artery;
9 inserting an expandable stent intravascularly from a location remote from
10 the first aperture for positioning in the first artery at the location of the first
11 aperture;
12 expanding the stent to connect the first end of the graft within the first
13 artery; and
14 attaching the second end of the graft to the second aperture in the second
15 artery.

1 12. The method of claim 11 wherein the first artery is the aorta.

1 13. The method of claim 11 wherein the second end of the graft is
2 attached by suturing.

1 14. The method of claim 11 wherein expanding the stent comprises:
2 expanding the stent radially outward to lie against an interior wall of the first
3 artery.